

**LITEON** POWER SEMICONDUCTORS

**SR850 thru SR856**

T-03-15

**VOLTAGE RANGE**  
 50 to 600 Volts  
**CURRENT**  
 3.0 Amperes

**FEATURES**

- Low cost
- Low leakage
- Low forward voltage drop
- High current capability
- Easily cleaned with Freon, Alcohol, Chloroethene and similar solvents
- The plastic material carries U/L recognition 94V-0

**MECHANICAL DATA**

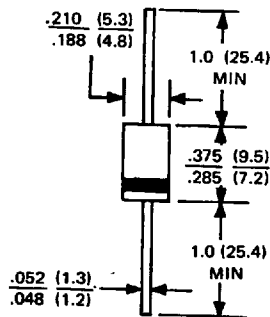
Case: JEDEC DO-201AD molded plastic

Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: 0.04 ounces, 1.1 grams.

**DO-201AD**


Dimensions in inches and (millimeters)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25° C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load,

For capacitive load, derate current by 20%.

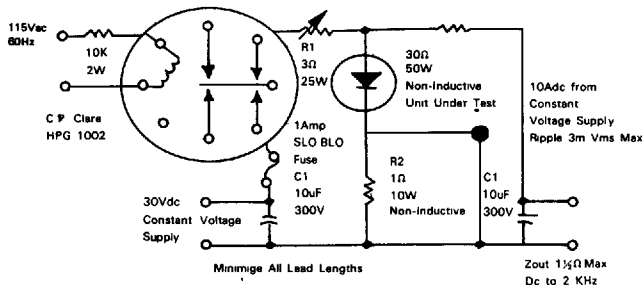
		SR850	SR851	SR852	SR854	SR856	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	V
Maximum DC Blocking Voltage	$V_{DC}$	60	100	200	400	600	V
Maximum Average Forward Rectified Current @ $T_A = 90^\circ C$	$I_{(AV)}$	3.0					A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	100					A
Maximum Forward Voltage of 3.0A DC $T_j = 25^\circ C$	$V_F$	1.25					V
Maximum DC Average Reverse Current at @ $T_A = 25^\circ C$	$I_R$	10					uA
Rated DC Blocking Voltage @ $T_A = 100^\circ C$		150	200	250	300	uA	
Maximum Recovery Time (Note 1)	t <sub>RR</sub>	200					ns
Typical Junction Capacitance (Note 2)	$C_j$	30					pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	28					°C/W
Operating Temperature Range	$T_j$	-65 to +150					°C
Storage Temperature Range	$T_{STG}$	-65 to +175					°C

- NOTES: 1. Reverse Recovery Test Conditions:  $I_F = 1 A, V_R = 30V$   
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC  
 3. Thermal Resistance Junction to Ambient.

RATINGS AND CHARACTERISTIC CURVES  
SR850 THRU SR856



Fig. 1— REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



A-Tektronix 545A K plug in Pre Amp  
P8000 Probe or Equivalent  
R1 Adjusted for 1.4Ω between Point 2 of Relay and Rectifier Inductance 38uH  
R2-TEN EW, 10Ω 1% Carbon Core in Parallel  
TA-25 10<sup>3</sup>C for Rectifier

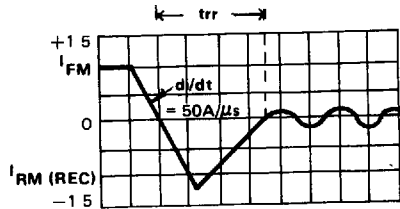


FIG. 2: FORWARD DERATING CURVE

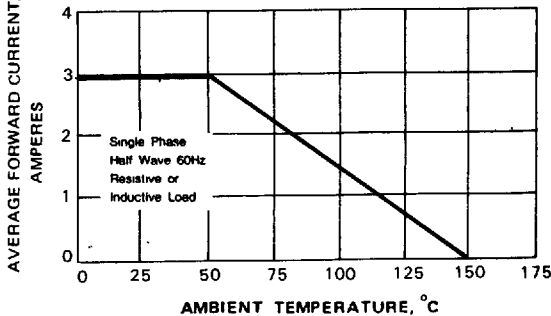


FIG. 3—PEAK FORWARD SURGE CURRENT

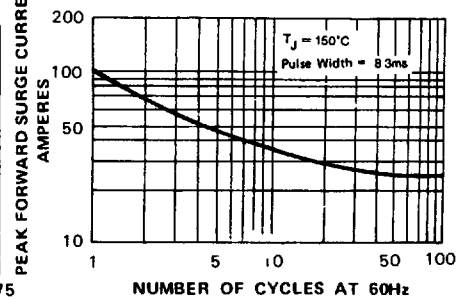


FIG. 4.—TYPICAL REVERSE CHARACTERISTICS

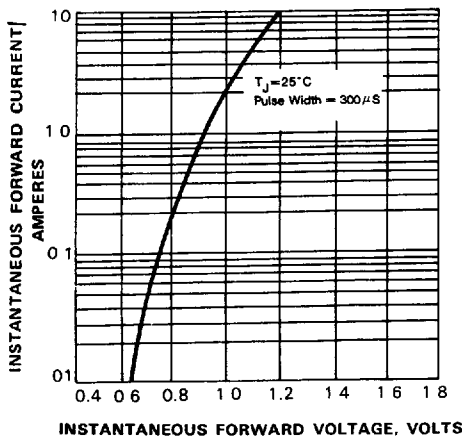


FIG. 5.—TYPICAL JUNCTION CAPACITANCE

